



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
[www.uspto.gov](http://www.uspto.gov)

| APPLICATION NO.   | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|-------------|----------------------|---------------------|------------------|
| 10/696,788  | 10/30/2003  | Shufeng Han          | 16569-US            | 8112             |
| 30689   | 7590        | 12/05/2005           | EXAMINER            |                  |
| DEERE & COMPANY<br>ONE JOHN DEERE PLACE<br>MOLINE, IL 61265 |             |                      | HUGHES, DEANDRA M   |                  |
|   |             |                      | ART UNIT            | PAPER NUMBER     |
|   |             |                      | 3663                |                  |
| DATE MAILED: 12/05/2005                                     |             |                      |                     |                  |

Please find below and/or attached an Office communication concerning this application or proceeding.

|                              |                                      |                         |  |
|------------------------------|--------------------------------------|-------------------------|--|
| <b>Office Action Summary</b> | <b>Application No.</b>               | <b>Applicant(s)</b>     |  |
|                              | 10/696,788                           | HAN ET AL.              |  |
|                              | <b>Examiner</b><br>Deandra M. Hughes | <b>Art Unit</b><br>3663 |  |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 07 March 2005.
- 2a) This action is FINAL.                    2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) 11-20 is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 1-10 is/are rejected.
- 7) Claim(s) \_\_\_\_\_ is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 30 October 2003 is/are: a) accepted or b) objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All    b) Some \* c) None of:
1. Certified copies of the priority documents have been received.
  2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | Paper No(s)/Mail Date. _____ .  |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>3/7/05; 10/30/03</u> . | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
|   | 6) <input type="checkbox"/> Other: _____.                                   |

**DETAILED ACTION**

***Election/Restrictions***

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:
  - I. Claims 1-10, drawn to a method of guiding a construction vehicle, classified in class 701, subclass 50.
  - II. Claims 11-20, drawn to a vehicle with automatic route guidance for a desired path, classified in class 701, subclass 25.
2. Inventions I and II are related as process and apparatus for its practice. The inventions are distinct if it can be shown that either: (1) the process as claimed can be practiced by another materially different apparatus or by hand, or (2) the apparatus as claimed can be used to practice another and materially different process. (MPEP § 806.05(e)). In this case, the method as claimed can be practiced by hand. A person can establish the elevation data, estimate at least one of a roll data and a pitch data, determine the location data, and guide the vehicle based on the estimated roll data and/or pitch data.
3. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.
4. During a telephone conversation with Darin Bartholomew on 12/1/05 a provisional election was made without traverse to prosecute the invention of Invention I, claims 1-10. Affirmation of this election must be made by applicant in replying to this

Office action. Claims 11-20 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

5. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

***Claim Rejections - 35 USC § 102***

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 1-10 are rejected under 35 U.S.C. 102(b) as being anticipated by Keller (US 6,463,374 published Oct. 8, 2002).

\*\*The references made herein are done so for the convenience of the applicant. They are in no way intended to be limiting. The prior art should be considered in its entirety.

With regard to claim 1, Keller discloses a method of guiding a vehicle, the method comprising:

- establishing elevation data and corresponding location data for a work area (fig. 7, ELEVATION; col. 30, lines 33-42; col. 10, line 35);

- determining location data, including a particular location of a vehicle, within the work area (col. 9, lines 49-50);
- estimating at least one of roll data and pitch data corresponding to the particular location (col. 10, lines 44-45; note: 3 elevation parameters);
- guiding the vehicle based upon at least one of the estimated roll data and the pitch data such that the vehicle follows a target path (the entire patent of Keller is directed towards this end; further, see col. 3, lines 5-16 and col. 10, lines 44-45).

With regard to claims 2, 4, and 7-10, Keller discloses the roll data comprises a roll angle and wherein the pitch data comprises a pitch angle (slope is an angle; col. 10, lines 44-45).

With regard to claim 3, figure 3 discloses a group of cells.

With regard to claim 5, the Examiner considers each path segment disclosed in figure 3 to be substantially linear.

With regard to claim 6, col. 6, lines 47-55 disclose steering compensation of the target path via steering compensation data.

***Information Disclosure Statement***

8. The information disclosure statements (IDSs) filed on 10/30/03 and 5/7/05 have been considered by the examiner and is found to be cumulative to the art of record.

***Conclusion***

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Keller '000, Keller '383, Korver, Krieg, Sahm '771, Sahm '661, Staub '916, and Staub '838 disclose guidance system for construction machines.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Deandra M. Hughes whose telephone number is 571-272-6982. The examiner can normally be reached on M-F, 8:30am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jack Keith can be reached on 571-272-6878. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Deandra M Hughes  
Examiner  
Art Unit 3663